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Time Series Evidence with Two Structural Breaks*

Choudhury, Homagni; Hawes, Michael

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## **Are Incomes Per Capita Stochastically Converging Between Indian States? Time Series Evidence with Two Structural Breaks**

Homagni Choudhury\* and Michael Hawes\*\*

*We examine time series data on income per capita (state domestic product per capita) for 20 Indian states for the period 1980 to 2006 to determine if incomes per capita are stochastically converging. To perform our tests, we use a minimum Lagrange Multiplier (LM) unit root test developed by Lee & Strazicich (2003, 2004) that endogenously determines two/one structural breaks in intercept and slope. In contrast to other unit root tests, this test is not subject to rejections of the null in the presence of a unit root with break(s). Overall, our findings provide evidence to support that incomes per capita are stochastically converging between states in India. Given the heterogeneous characteristics of states, "stochastic convergence" implies incomes per capita between states converge to a state-specific "compensating differential" i.e. "stochastic convergence" is consistent with "conditional convergence". The two/one breaks in relative incomes per capita identified for each state coincide with India's reforms period. To our knowledge, this is one of the first attempts to use a "stochastic convergence" framework to address regional income convergence in India.*

**Keywords:** Stochastic convergence, Conditional convergence, State domestic product per capita, Compensating differential, Structural breaks

**JEL Codes:** C12, C22, O18, O47, R10, R15

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\*Dr Homagni Choudhury, Lecturer in Economics, Aberystwyth University (UK),  
Email: [hoc6@aber.ac.uk](mailto:hoc6@aber.ac.uk), [homagnichoudhury@yahoo.com](mailto:homagnichoudhury@yahoo.com)

\*\*Mr Michael Hawes, Aberystwyth University (UK), Email: [m.hawes93@gmail.com](mailto:m.hawes93@gmail.com)